

To: Zhen, Davis[Zhen.Davis@epa.gov]
Cc: PARRETT Kevin[Parrett.Kevin@deq.state.or.us]; JOHNSON Keith[JOHNSON.Keith@deq.state.or.us]
From: JOHNSON Keith
Sent: Wed 12/9/2015 10:01:07 PM
Subject: FW: Evraz Oregon Steel Groundwater report

Davis, let's talk about how management should steer this discussion. This issue has a lot of history to it, most of it unresolved. Including at M&B. Thanks

From: SUTTER Jennifer
Sent: Wednesday, December 09, 2015 12:56 PM
To: 'DeMaria, Eva'
Cc: Michael Allen (allenmc@cdmsmith.com); Sheldrake, Sean; MCCLINCY Matt; Zhen, Davis; PARRETT Kevin; JOHNSON Keith; SUTTER Jennifer
Subject: RE: Evraz Oregon Steel Groundwater report

Thanks Eva

As we discussed in the teleconference, DEQ is requesting the EPA clarify in writing the exposure scenario that is being protected. We believe there is adequate data to show that the groundwater concentrations at EOS are not resulting in exceedances of the protective standards you refer to for using the Willamette River as a drinking water source. In fact, there are Willamette River data from samples collected immediately adjacent to EOS that demonstrate this.

Jennifer Sutter

Project Manager, DEQ NWR Cleanup and Tanks

700 NE Multnomah St., Suite #600,

Portland, OR 97232.

(503) 229-6148

From: DeMaria, Eva [<mailto:DeMaria.Eva@epa.gov>]
Sent: Wednesday, December 09, 2015 12:43 PM
To: SUTTER Jennifer
Cc: Michael Allen (allenmc@cdmsmith.com); Sheldrake, Sean; MCCLINCY Matt; Zhen, Davis
Subject: RE: Evraz Oregon Steel Groundwater report

All-

I had a debrief with my managers this morning. They understand the issues.

I want to correct my previous email regarding RAO 4 for Mn. RAO 4 for Mn will be changed from 50 ug/l to 430 ug/l. The 430 ug/l Mn concentration is an RSL that is a risk-based PRG. My apologies for the confusion my previous email may have caused.

Again, the compliance points are the bank wells. Under CERCLA we are obligated to protect the Willamette River for its designated beneficial use as a drinking water source.

Please call or email if you have questions. Thanks.

Eva

From: DeMaria, Eva
Sent: Wednesday, November 25, 2015 2:25 PM
To: 'SUTTER Jennifer' <SUTTER.Jennifer@deq.state.or.us>
Cc: Michael Allen (allenmc@cdmsmith.com) <allenmc@cdmsmith.com>; Sheldrake, Sean <sheldrake.sean@epa.gov>; MCCLINCY Matt <MCCLINCY.Matt@deq.state.or.us>
Subject: RE: Evraz Oregon Steel Groundwater report

Initially more monitoring for better characterization of the plume.

From: SUTTER Jennifer [<mailto:SUTTER.Jennifer@deq.state.or.us>]
Sent: Wednesday, November 25, 2015 10:21 AM
To: DeMaria, Eva <DeMaria.Eva@epa.gov>
Cc: Michael Allen (allenmc@cdmsmith.com) <allenmc@cdmsmith.com>; Sheldrake, Sean <sheldrake.sean@epa.gov>; MCCLINCY Matt <MCCLINCY.Matt@deq.state.or.us>
Subject: RE: Evraz Oregon Steel Groundwater report

Eva

Can you provide some additional perspective on what EPA expects EOS to do to address EPA's concern?

Jennifer Sutter

Project Manager, DEQ NWR Cleanup and Tanks

700 NE Multnomah St., Suite #600,

Portland, OR 97232.

(503) 229-6148

From: DeMaria, Eva [<mailto:DeMaria.Eva@epa.gov>]
Sent: Tuesday, November 24, 2015 4:20 PM
To: SUTTER Jennifer
Cc: Michael Allen (allenmc@cdmsmith.com); Sheldrake, Sean; MCCLINCY Matt
Subject: RE: Evraz Oregon Steel Groundwater report

I should clarify that RAO 4 is projected to be an ARAR once the ROD is signed.

From: DeMaria, Eva

Sent: Tuesday, November 24, 2015 3:54 PM

To: 'SUTTER Jennifer' <SUTTER.Jennifer@deq.state.or.us>

Cc: Michael Allen (allenmc@cdmsmith.com) <allenmc@cdmsmith.com>; Sheldrake, Sean <sheldrake.sean@epa.gov>; MCCLINCY Matt <MCCLINCY.Matt@deq.state.or.us>

Subject: RE: Evraz Oregon Steel Groundwater report

Hi Jennifer-

This is a followup to our meeting on November 17. I've inquired with our risk assessors and Kristine Koch. RAO 4 (50 ug/L Mn) is an ARAR that must be met, whether or not risk-based, and will not be waived. We are protecting the use of the Lower Willamette as a household water source. The point of compliance are the bank wells. Moreover the RSL for manganese is 430 ug/l and is based on noncancer effect (Mn is a neurotoxin). Mn concentrations in OSM groundwater far exceed RAO 4 and this HH risk-based criteria. Should DEQ decide to pursue an NFA designation based on the available data, EPA would conclude that the source has not been controlled. Finally, the Windward hardness criteria method has been approved by EPA and concerns about the dataset can be addressed by contacting Bill Stubblefield at OSU Corvallis.

Please call or email if you have questions. Thanks.

Eva

Eva DeMaria

Office of Environmental Cleanup | Superfund Site Cleanup Unit #2

U.S. EPA Region 10 | 1200 Sixth Avenue, Ste. 900, ECL-122 | Seattle, WA 98101

P: 206-553-1970 | demaria.eva@epa.gov

From: SUTTER Jennifer [mailto:SUTTER.Jennifer@deq.state.or.us]
Sent: Monday, November 02, 2015 11:03 AM
To: DeMaria, Eva <DeMaria.Eva@epa.gov>
Cc: Michael Allen (allenmc@cdmsmith.com) <allenmc@cdmsmith.com>; Sheldrake, Sean <sheldrake.sean@epa.gov>; MCCLINCY Matt <MCCLINCY.Matt@deq.state.or.us>; SUTTER Jennifer <SUTTER.Jennifer@deq.state.or.us>
Subject: RE: Evraz Oregon Steel Groundwater report

Eva

Thank you for your input on the groundwater source control evaluation at the Evraz Oregon Steel site. Please let me know when we can discuss the EPA comments and a path forward for the groundwater evaluation at this site. DEQ would like to proceed with a No Further Action determination for groundwater source control, but is concerned the EPA may have issues with this conclusion.

Please consider the following with respect to the EPA comments:

1. While we recognize that groundwater in the vicinity of MW-13 may not have returned to “pre-leak” conditions, DEQ supported moving forward with the sampling event in January due to the imminent decommissioning of bank and shoreline wells to allow for the shoreline source control measures to be implemented. Further monitoring of MW-13 as suggested in the EPA comments is not possible as the well has been decommissioned. We note the following in assessing the significance of the altered conditions in evaluating potential ground water source control issues in this area:

a. The elevated pH and reduced conductivity measured in this well should result in reduced dissolution and movement of manganese in groundwater at this location. These conditions have persisted for three years.

b. MW-17 is located riverward of MW-13 and the manganese concentrations measured in MW-17 in January were consistent with those measured 10 years prior.

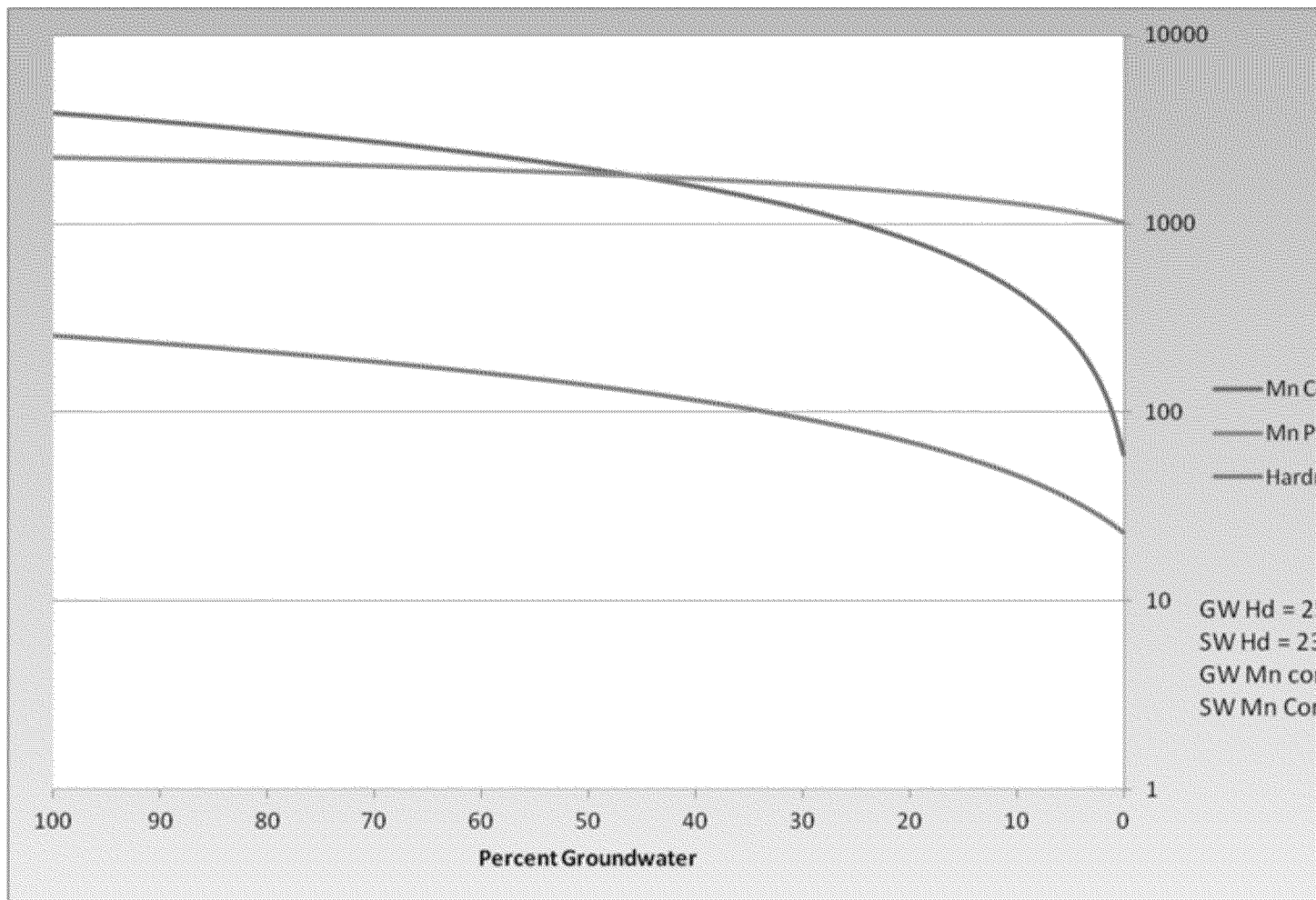
2. The beach wells were constructed by EOS, under DEQ oversight, in lieu of the LWG collecting TZW off of the Evraz site. Utilizing beach wells instead of TZW for the purposes of regulatory evaluation was discussed and agreed to by EPA, DEQ and Evraz at the time. While it is true that beach groundwater is not equivalent to transition zone water, the TZW characteristics noted in the EPA comment: “oxygen-rich, biologically active...mixing with surface water” all serve to further reduce the bioavailability of manganese. Anoxic conditions are favorable to manganese dissolution while oxidizing conditions promote precipitation/sequestration. Consequently, the beach well data is a conservative estimate of manganese concentrations in the TZW.

3. EPA comments state that it is impossible to determine the benthic impact of elevated arsenic concentrations in the groundwater; however, arsenic concentrations in groundwater at EOS have never exceeded benthic toxicity criteria over 13 years of monitoring.

4. Both EPA and DEQ have agreed to use the Colorado hardness dependent methodology for calculating a chronic ambient water quality criteria for Mn. Consequently, the ecological toxicity end point should not be the old JSCS 120 ug/L ORNL value but a hardness dependent value derived following the Colorado methodology. Based on the 2015 sampling, we calculate the following hardness dependent PRGs for Mn as follows:

Well	Hardness (mg/l as Caco3)	Hardness - based AWQC (ug/L) (PRG)	Mn Conc (ug/L)
MW-9 - bank	103	1666	2410
MW-10 - bank	202	2085	5600
MW-13 - bank	23	1011	23.1
MW-17 - beach	171	1972	1480
MW-18 - beach	240	2208	471
MW-23 - beach	256	2256	3840

Under this evaluation, the only beach well that exceeds the PRG is MW-23 by a factor of 1.7. Considering this analysis along with the factors discussed in item 2 above, manganese present in groundwater at the EOS site would not be expected to adversely impact conditions in the benthic zone adjacent to the facility. Also, as shown in the figure below, as groundwater moves into surface water the manganese concentration decreases faster than the PRG, making it highly unlikely that, even in MW-23 area, manganese concentrations in the gw-sw interface would exceed the PRG.



5. EPA comments question our ability to estimate river impacts associated with arsenic detected in MW-10. Arsenic concentrations in MW-10 have ranged from 4.9 to 39.1 ppb over a period of 13 years. Arsenic concentrations in background monitoring well MW-22 have ranged from 2.4 to 5.3 ppb. Arsenic concentrations in MW-10 have ranged from 0.92 to 16 times the background value. While we do not have a beach well immediately downgradient of MW-10, beach wells south and north of MW-10 (MW-17 and MW-18) have had arsenic concentrations within the range of or below background values.

I'm also attaching my original No Further Action memorandum for your information.

Let me know when we can discuss a path forward on this issue. FYI – **Personal Privacy / Ex. 6**
Personal Privacy / Ex. 6 but am relatively open after that.

Thanks!

Jennifer Sutter

Project Manager, DEQ NWR Cleanup and Tanks

700 NE Multnomah St., Suite #600,

Portland, OR 97232.

(503) 229-6148

From: DeMaria, Eva [<mailto:DeMaria.Eva@epa.gov>]

Sent: Thursday, October 15, 2015 3:47 PM

To: SUTTER Jennifer

Cc: Michael Allen (allenmc@cdmsmith.com); Sheldrake, Sean; MCCLINCY Matt; LIVERMAN Alex

Subject: RE: Evraz Oregon Steel Groundwater report

Hi Jennifer-

Please find attached EPA's comments on the EVRAZ Oregon Steel 2015 Beach and Bank Groundwater Monitoring Report. Please call or email if you have questions. Thanks.

Eva

From: SUTTER Jennifer [<mailto:SUTTER.Jennifer@deq.state.or.us>]

Sent: Monday, September 14, 2015 2:51 PM

To: DeMaria, Eva

Cc: SUTTER Jennifer

Subject: Evraz Oregon Steel Groundwater report

Hi Eva

We received this report last month and I'm realizing you did not get a copy. I've reviewed it but am waiting input from the project hydrogeologist. I had proposed no further source control action for groundwater a while back, but EPA raised some concerns due to manganese concentrations. There has been some discussion of modifying the approach to evaluating Mn which will likely impact this evaluation as well. If you don't have all the correspondence on the previous evaluation (NFA proposal, EPA comments, DEQ responses), let me know and I can provide. Here's a link to the latest data: ftp://deqftp2.deq.state.or.us/jsutter\2015-08-06_GW_Sampling_Report.pdf

See you next week.

Jennifer Sutter

Project Manager, DEQ NWR Cleanup and Tanks

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Portland, OR 97232.

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